REPLACEMENT SHEET SUBMITTED ON SEPTEMBER 4, 2009

Figure 3. Annotated sequence of the paralogue cluster

8.0	160	240	320	400	480	560	640	720	800	880	096	1040	1120	1200	1280
	gtcaggcgga		gggtggccac				gtgcgcaccc		gttoggtgaa	cacagttgtc		geggtaeetg		tgccgcccgc	gggtgttcgc
l 70 ctgccgggtg	gagggcagt	ggtcggtgag	cgtccgtccc	ggcgtagtac	gccgggccag	agttcgtcga	cagttgcacg	ggcgggcggt	gtggccacca	gagegegeee	aggccgggcc	cddccdccdd	gttgggctcg	ccttcggcgg	acacgtgcct
60 ggtagtcccc	cctgctgggt	geetecaece	cgcggatgcc gacgtggagc cgtccgtccc gggtggccac 320	ttggtcaggg cctcggagac ggcgtagtac gcggcggtct	atggcggagc gccgggccag ggccttgagc	tgccccgggc gacctcccgg agttcgtcga cggcggcggc	gcggcaccga	caggiogogi togalacgge ggegggeggi gleggeggeg	tctccgcgtt ggcgatggcg gtggccacca	acgccacgct	ccactccttg ccgacgacgg aggccgggcc cgaggacacg	acaccagggt gtgcacattc cggccgccgg gcggtacctg 1040	gggcggttcc gttgggctcg taacggccga	gcgaacacct	ccgcagctcc
50 60 70 80 900gctagct ggtagtccc ctgccgggtg ccgaccgccg	rillase tccgacggtg	geogeogagt geetecaece ggteggtgag geogaegagg	cgcggatgcc	ttggtcaggg	ccggaccggg	tgccccgggc	teggegtega geggeacega cagttgeacg gtgegeacec 640	caggtcgcgt	tctccgcgtt	tegiteateg aegecaeget gagegegee caeagitgie	ccactccttg	acaccagggt	gcgacataca	ggcgaccgcg gcgaacacct ccttcggcgg tgccgcccgc 1200	eggeggeece eegeagetee acaegtgeet gggtgttege 1280
ccatgggagc agcatcgcag tgcgcctccc cggccgccat	stop semsor gtoggtgtgc	gccgcagttg	aggaagtagt	sttggaagag	ggatgtcgag	gaadatada	gatcagctcg	ggccgtcgtg	gaadatdad	catoggettg	ogcggaatee	sccgactcga	ggtccaggcg	aggaatagga	gaatgataat
1 30 tgcgcctccc	gccggat <u>cta</u>	tggtggttcc cgcgccgggc gggctgtgca gccgcagttg	cecgageece ggeagggge ggegeeaeeg eggeegtegt	atggacgtcg acgacggtgg caccggagtg cttggcggcg	ggggtggcgt tccccggtct ggatgtcgag	geogggogga gteogeeete ggogagtaee geogggtgga	cagcccgtcg gtcacctcgt cgagctgccg gatcagctcg	gcagcgccag ggagaccagg cgctgttggg ggccgtcgtg	gggcccgtga cgcggtgagg gccgcctgcg	geoggecage eggteetegg tgteegaegg categgettg	ogtogaegtt gateggeatg cacaeegtgg egeggaatee	geogogtagt egtegateeg egeegggeag eeegaetega	ggaaaatcac ggccggtcct ggtccaggcg	1121 ggaccgcgaa gtcggccgag aggagctgtc cggcctcggc	1201 gegaccaggg tegecaegeg eegeagegee geetgeteet
20 agcatcgcag	gggtgcggcg	وقوقوووقققو	ggcagggggc	acgacggtgg	ggggtggcgt	gtaagaaata	gtcacctcgt	ggagaccagg	gggcccgtga	aggtaatagg	gatoggcatg	cgtcgatccg	ggaaaatcac	gtcggccgag	tegecaegeg
10 ccatgggagc	gggcggtccc	tggtggttcc	cccgagcccc	atggacgtcg	cgaccggttc	gccgggcgga	cagcccgtcg	gcagcgccag	gcgacgatcc	geeggeeage	cgtcgacgtt	gccgcgtagt	gataccggcg	ggaccgcgaa	gegaecaggg
\vdash	81	161	241	321	401	481	561	641	721	801	881	961	1041	1121	1201

Figure 3a/3

tecteggitgi egggeggeag eggiteegeg giteagegaga 1360 eggeaegeeg aegaeegaae eGAAGCCGCG CGCCCTGGCG 1440 1601 TCGCCATGCC GTCCGGATCG AGCCTGATGA TTCCGGTCAC ATCGTTGCCG AGCAGTTCTC CGACTTCGGC GGCGACCGTC 1680 1681 GCGAACATCT GTTCCGGTGG GGTGGCCCTG GCCACCAGGG TCGCCACCCG TCGGAGTGCC GCCCGCTCCT CGACGATCTG 1760 GATGACGCCC GCATACCGGG TATCACGGCA CATCAGCATG 1840 CCGTCCATCA CCGTCCTGGG CTGTCTGGGC GTACGCGCCG 2400 TCCGGGCCGG CCGCCCGTC TCGGACACCA GCGTCACCAC 1520 CGGGAACACG CGTCCGGAAT CAGCCCCGG AACGGCGGGA 1920 GACGACGCTG CGGGTTCTCC ACGGGGGAGA GATCCGCGAA 2160 CGTTTTCGCC CTGCTGCTCA TCAACGCGGG CAGTGTGGTG 2480 2481 CCGGTCGACt cgatcgtctt ccgtatctgg ggcaactcac caccgggcgc ggtcaccgcg acgctccagt cctatgtgtc 2560 AGCGGGCCGT GCAGACTICT GGACCAGCCG CCGACGGCGC 1600 GAATCCGCCC TGACCTCGGG AGTTTGCAGC TAGCTGGAAT 2000 GGCGATGCGG AAGCCGATCG TTCCCAGTAC TTCTGGGAAG 2080 1921 CCGTCTTCCT CCGTCCGGCG CGGGGCACTG CGCCGCGGCG 1281 gatggcggtg gccacgaggt cggtgaaacc ggccagccgg 1521 GTTCCGCCCG TCGGGGTCCA CCCGGGTGCC GATGGGGAAG 1761 TICGCACGAC ACGACCGCIG CCAGGGCCCC CTACCCGCCC 1841 ACGICCGCCG IGAACGCCCG ICAACGIGGC CCGCCGGAGI 2161 CCGGCGAAGG AGCTGCCGTG TCGGACGTCT TCGCATCCGA 2241 CCACCGCGCT CTGTCATCAG CGCCGTCGGC GCCGTCAGCC 1361 tegecateat caegeceeae ageegteeet egaegttgat 2001 CAGCGGTTCG GGTTGGTGGG AAGGGATGTT GGCCGCTGGC 2081 IGCGICGCGG AGAGICGGIC CGCIICCCCG AGIGGGCCGC 2321 TGAGGTTCGT CACGACGTCC CCGGCCTGCC GGGTCCGTCA 2401 ACGCCCGAA ACTGGAGCTG GCCCTCCGC GTCAGCGGGC 1441 AAGTCGGCGG GTGCCCCGGA CGACTCGGCG GCGTCGTCGA

Figure 3b/3

2640	2720	2800	2880	2960	3040	3120	3200	3280	3360	3440	3520	3600	3680	3760	3840	3920
ogggetaca	ccgcgcgag	agctgagcgc	cactgctgtc	CGGCTGATC	SCGGGCCCT	ACGGTCTGG	GGCACAGCGG	0666666666	CTCGGTTC	SATGTCTCC	SGGCGCGCA	ctgctggagt	aggeteete	gcccgacta	gatacaac	yagaacagc
saccagccg c	gagaaggat a	ccgtacgagg a	gacatgggcg c	SCIGCGGGA G	AGGCGACGC G	GCGTCAGGAC AACGGTCTGG	TGTCGGTCCC G	3099909909	PCCGCTCCT G	CETTTCCGG C	GGTCCACG G	GCTgagagat c	oggcaagac c	agtgaggacc ggcccgacta 3760	atteceeggt tggetgegge	ogggggcga g
cgaactgct go	tcaggacag gi		gegeegtgga ga	AGCGCAATC CO	AGGACGTAC GA	GGCGATCCT G	CCGTGACGG TC	GATGACGGTG G	CGGCICCGG CI	TAGCCGCGC CC	GGGGCGAG CC	GGCGACGA G	೩೮೮೮೮೮೮೮೩ ೮	tgttcggag ag	tatgcacgg at	acteceeeg a
ggttcgacac ccgaactgct gcaccagccg ccgggctaca 2640	tgagcaggcc atcaggacag ggcgccggct ctcgcgcgag	tgctgagctg gggcgggaca	ctccggctgg g	GCCGGAGGIG CAGCGCAAIC CGCIGCGGGA GCGGCIGAIC	CGGACGCGCT CAGGACGTAC GAGGCGACGC GGCGGCCCT 3040	GCGCTGCACG CGGCGATCCT	CGGGCGGGG GCCGTGACGG	TCCCGGGGGC G	GGCTCCGGCT CCGGCTCCGG CTCCGCTCCT GCGTCGGTTC	TGCCGCCTCC GTAGCCGCGC CCGTTTCCGG CCATGTCTCC 3440	CGCAGACCCT CCGGGCGAG CCGGTCCACG GGGGCGCGCA	TICGICGGGC GCGGCGACGA	ogtogtogge gaggegggea geggeaagae eeggeteete	tctgggcgtc ctgttcggag	tggccggaac gtatgcacgg	acaggggccg cartececeg aegggggega ggagaacage 3920
			gctggagcag	ACCAGCTCAA			CGGCGGGGT	CGGGCGCGGG								
2561 ccggctgcgg aaactcctgg ccgagtgtgt gctcccggac	cacatogacg cgaaccgttt	ggccgtgctc tgccaggccc	aggccaatcg g	gaggTGATGG A	2961 GGGCAGCTCA TGCAGGCGCA GTACCGGCTG GGGTGCCAGG	ATCCGGGCAA GGAGCTGGCG	GCGCCGCCGT	GGTGGCGGGG C	CCGTTTCCGC GICCGTTTCC	GTTTCTGGCT CGGCGTCCGT	GICCGIGGCG CICCACCGGC	TGTTCCCCAC GCTGCCGCCG	acctegggge gggtggegtt	agogotoggt tooggacagt gtgogoacog	acgaccgtgc tgcggcatct gtacgcgatg	3841 gogcactoge ggaactgett ceegaggtgg geeeggagee
aaactcctgg	cggcaccgag	aggaggcgcg	gccgtccagg	2881 tgcggctggg gcgggacgag	TGCAGGCGCA	CTGGGGACCG	CCCGGCGTCC	TGACGCGGCC	3281 CCCCGCGTCC GCCTCCGGCT	TCCCGGCTCC	CCGCTTTCGG	ACCGGGCAGG	cgcgttccac	agcgctcggt	acgaccgtgc	ggaactgctt
ccggctgcgg	2641 ccctcgcgct	gagcagcacc	gtacgacttc	tgcggctggg	GGGCAGCTCA	3041 GGCCGAGGAG	3121 ACCGCGTCGT	TCGAGGCCGT	CCCCGCGTCC	3361 CCACCTTCTT TCCCGGCTCC	GGGCCCGGGT	GGGGATGCGC	3601 ccgcgacgtc	3681 tccgagttgg	3761 ctggccgtgg	gcgcactcgc
2561	2641	2721	2801	2881	2961	3041	3121	3201	3281	3361	3441	3521	3601	3681	3761	3841

Figure 3c/3

4000	4080	4160	4240	4320	4400	4480	4560	4640	4720	4800	4880	4960	5040	5120	5200
cgcacaccct cacgctcgcg cccgctctcg cgcccccgcg 4000	caggogotto tgogoacggt cogogaacco gtggtgatca 4080	cctgctgcgc ctcctggtgg agcaactgcg caccgtcccc 4160	acgaegeega getgegaegg geegeeggeeg tgateeteea 4240	gcacgggcca coggggaact cgccggaggg atgctgggca 4320	cteegeeggg aaccegtact tectegteea getecteege 4400	teceggaega getggeeggg gtegtgetge aaeggetgte 4480	geggtegtgg agegeagttg egaaeggegt gtgategaga 4560	tacggcggtc cgcggcggtc tgctggagga agaccccgac 4640	aggeegtetg ggaegaeetg gagaacaeee gteggeeegt 4720	gtecegggee eeggggteet egGCGGCGGG CGGCGTTGC 4800	ACGCGCAGCC GGGTGCAAGG GGCGGTGCCG ACACTGGGCG 4880	GAGGAGCCCC CATTGGACAC GTACGCAGCG GATACGTACC 4960	CACCCGTTCC	TCGCGGCGGA CCGCGCCCAT ATGTTCCACC CGGTCCTGCC 5120	GGCTGCACCG TACGGGACAC CGAAGGGCGC ACCTATCTCG 5200
cccgctctcg	ccgcgaaccc	agcaactgcg	gaagaagaag	cgccggaggg	tcctcgtcca	gtcgtgctgc	cgaacggcgt	tgctggagga	gagaacaccc	5990990965	GGCGGTGCCG	GTACGCAGCG	CCCGTCCCGG	ATGITCCACC	CGAAGGGCGC
cacgctcgcg	tgcgcacggt	ctcctggtgg	gctgcgacgg	ccggggaact	aacccgtact	gctggccggg	agcgcagttg	cgcggcggtc	ggacgacctg	ccgggggtcct	GGGTGCAAGG	CATTGGACAC	CGTCCCGGGA	CCGCGCCCAT	TACGGGACAC
cgcacaccct	caggcgcttc	cctgctgcgc	acgacgccga	gcacgggcca	ctccgccggg	tcccggacga	gagatagag	tacggcggtc	aggccgtctg	gtacagggaa	ACGCGCAGCC	GAGGAGCCCC	TCCCCACGCG	TCGGGGCGGA	GGCTGCACCG
agcacccgg	cgccgtgtgc	cctcgctcgc	cggctcgcgc	cgccctggac	tgcacgagcg	gagacggaga	cgacatctgc	agaacgtccg	ctggtccggg	cacggtc <u>tga</u>	GGGCAGCCGG	ACGGCCCACC	CCGACGCACC	GCGTGGCTGC	CICCGGCCGC
cgacggggac	ccctgcacga	geegaegeee	gegeaeette	tcctgctgaa	gtacgggccc	cgccgcctgg	gccgggtgct	atcccgctgg	cgtgcatccg	aggragagg	TGATCCCCCG	2222225225	GAGCCGCGTC	CGCCGAGGCC	CCGTTCTGGT
ggtgcggg	gtttca	gagegg	caccac	jacggg	stacta	yctogo	cgtgc	gaggga	yaggtt	gatag	GGGCT	CGGTC	CACCCC	55555	CCGCA
ğ	gata	catg	tggt	gaga	cacc	agggg	caad	ccati	ggcto	taaga	ACGC	GTGG	CACC	CGGAC	GAGGA
3921 ggcaacgggg acggtgcggg cgacggggac agcacccgg	4001 ctccagagag gctcgtttca ccctgcacga cgccgtgtgc	4081 tgctggagga catggagcgg gecgaegeee eetegetege	4161 ctgctgctcg tggtcaccac gcgcaccttc cggctcgcgc	4241 gtcgaccggc gcgcgcggg tcctgctgaa cgccctggac	4321 aggeceegga caeetteete gtaegggeee tgeaegageg	4401 tegeteegge aggggetege egeegeetgg gagaeggaga	4481 gagogigoog coogcogigo geogggigoi ogacaicigo	4561 cogtgctgcg ccatgaggga atcccgctgg agaacgtccg	gaccccgggc ggctc	4721 gtcccgttcc tccgcgctcg gggcgctggc cacggtc <u>tga</u>	4801 GCGCTCCCCG ACGCCGGGCT TGATCCCCCG GGGCAGCCGG	4881 GGGGGGGCC GTGGCCGGTC GCCGCCCCC ACGGCCCACC	4961 CGCGGTCCGG CACCCACCCC GAGCCGCGTC CCGACGCACC	5041 GAGCCGCGCC CGGACCCGGG CGCCGAGGCC GCGTGGCTGC	5121 CCGGGGCCGC GAGGACCGCA CCGTTCTGGT CTCCGGCCGC

Figure 3d/3

U.S. Serial No. 10/552,571 Attorney Docket No. PB60213

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5201	ACGCCTCGTC	GGTGCTCGGA	CTGACCCAGA	5201 ACGCCTCGTC GGTGCTCGGA CTGACCCAGA TCGGCCATGG ACGTGAGGAG ATCGCGCAGG CCGCCGCCGA GCAGATGCGG 5280	ACGTGAGGAG	ATCGCGCAGG	CCGCCGCCGA	GCAGATGCGG	5280
5281	ACACTCGGTC	ACTTCCACAC	CTGGGGGCACC	5281 ACACTCGGTC ACTTCCACAC CTGGGGCACC ATCAGCAACG ACAAGGCCAT CCGACTGGCC GCGCGCCTCA CCGACCTGGC 5360	ACAAGGCCAT	CCGACTGGCC	GCGCGCCTCA	CCGACCTGGC	5360
5361	5361 GCCCCAGGGT CTCCAGCGCG TCTACTTCAC CAGCGGCGGC	CICCAGCGCG	TCTACTTCAC	CAGCGGCGGC	GGCGAGGGCG	GGCGAGGGCG TCGAGATCGC CCTGCGCATG GCCCGTTACT 5440	CCTGCGCATG	GCCCGTTACT	5440
5441	5441 TCCACCACCG CACCGGCAGC CCGGAGCGCA CCTGGATCTT	CACCGGCAGC	CCGGAGCGCA	CCTGGATCTT	GICGCGCCGC	GTCGCGCCGC ACCGCCTACC ACGGCATCGG CTACGGCAGC 5520	ACGGCATCGG	CTACGGCAGC	5520
5521	5521 GGTACGGTGT CGGCCTCGCC CGCCTACCAG GACGGGTTCG	CGGGCTCGCC	CGCCTACCAG	GACGGGTTCG	GCCCGGTGCT	GCCCGGTGCT GCCCCATGTG CACCACCTCA CGCCGCCCGA 5600	CACCACCTCA	CGCCGCCCGA	5600
5601	5601 CCCGTACCAC GCCGAGCTGT ACGACGGCGA GGACGTCACG	GCCGAGCTGT	ACGACGGCGA	GGACGTCACG	GAGTACTGCC	GAGTACTGCC TGCGCGAACT CGCCCGCACC ATCGACGAGA 5680	CGCCCGCACC	ATCGACGAGA	5680
5681	5681 TCGGCCCCGG GCGGATCGCC GCGATGATCG GGGAGCCGGT	GCGGATCGCC	GCGATGATCG	GGGAGCCGGT	CATGGGCGCG	CATGGGCGCG GGCGGCGCG TCGTCCCGCC GCCGGACTAC 5760	TCGTCCCGCC	GCCGGACTAC	5760
5761	5761 TGGCCGCGCG TCGCCGCGCT GCTGCGCTCC CACGGCATCC	TCGCCGCGCT	GCTGCGCTCC	CACGGCATCC	TGCTGATCCT	TGCTGATCCT GGACGAGGTC GTCACCGCGT TCGGCCGCAC 5840	GTCACCGCGT	TCGGCCGCAC	5840
5841	5841 GGGGACCTGG TTCGCGGCCG AGCACTTCGG GGTGACCCCC	TICGCGGCCG	AGCACTTCGG	GGTGACCCCC	GATCTGCTGG	GATCTGCTGG TGACCGCGAA GGGCATCACC TCCGGGTATG 5920	GGGCATCACC	TCCGGGTATG	5920
5921	5921 TCCCGCACGG GGCGGTGCTC CTGACCGAGG AGGTCGCGGA	GGCGGTGCTC	CTGACCGAGG	AGGTCGCGGA	CGCCGTGAAC	CGCCGTGAAC GGGGAGACGG GGTTCCCGAT CGGCTTCACC 6000	GGTTCCCGAT	CGGCTTCACC	0009
6001	TATACCGGTC	ACCCCACGGC	GTGCGCCGTC	6001 TATACCEGIC ACCCCACGEC GIGCECCGIC GCGCICGCCA ATCICGACAI CAICGAACGE GAAGGGCIGC IGGAGAACGC 6080	ATCTCGACAT	CATCGAACGG	GAAGGGCTGC	TGGAGAACGC	0809
6081	6081 GGTGAAGGTG GGCGACCACC TCGCCGGGCG GCTGGCGGCC	GGCGACCACC	TCGCCGGGCG	GCTGGCGGCC	CIGCGCGGGC	CTGCGCGGGC TGCCCGCCGT GGGGGACGTC CGGCAACTGG 6160	GGGGGACGTC	CGGCAACTGG	6160
6161	6161 GCATGATGCT CGCCGTCGAG CTGGTGTCGG ACAAGACGGC	CGCCGTCGAG	CTGGTGTCGG	ACAAGACGGC	CCGCACCCCG	CCGCACCCCG CTGCCGGGCG GCACCCTCGG GGTCGTGGAC 6240	GCACCCTCGG	GGTCGTGGAC	6240
6241	GCGCTGCGCG	AGGACGCGGG	CGTCATCGTC	6241 GCGCTGCGCG AGGACGCGGG CGTCATCGTC CGGGCCACGC CGCGCTCCCT GGTCCTCAAT CCGGCGCTCG TGATGGACCG 6320	CGCGCICCCI	GGTCCTCAAT	CCGGCGCTCG	TGATGGACCG	6320

Figure 3e/3

640	6480	6560	6640	6720	6800	6880	0969	7040	7120	7200	7280	7360	7440	7520
2229929299	GCGCCTTCCC	TCCTCCTCC	CGCCGCCCGA	CGCGTGCACC	CGGCGCGGTG	GGGCGTGGT	CIGGIGGCCG	GICCCGIGIC	TGGGCACCGC	GGTACGGGCC	CGACGACATC	CGGCCGTTCT	CTGGTCAGGG	GCAGGCCGGG
CTGCGGCGGC TGGCACCCGA CGGGCGGATC GGCGCGGCCC 6400	GGGCGCCGGG TCGGCACAGC GGCCGACCCG GCGCCTTCCC 6480	IGGCCCCTGC CCCTGCCCCT GCTCGGGCGC ICCTCCCTCC 6560	CGCCAAGCGC CCCGTGCCAC GGTGGGAGAC CGCCGCCCGA 6640	CCGATGCGTG CCTCTTCGCC CAGAGGGTTC CGCGTGCACC 6720	CGTCATCGCC ICCGACGTTC CCGCGGCGGT CGGCGCGGTG 6800	GCCGGGACGC GGTCGCCGAC GGGATCGCCC GGGGCGTGGT 6880	GGGTACGAGG ACGCCGCGGA GGTGCGCCAT CTGGTGGCCG 6960	CACGGGACCC GTCGGCGAGC GGTATCCGAT GTCCCGTGTC 7040	CCGACTICGA CGGCGCGGC GCGGCCGIGC IGGGCACCGC 7120	GCGACGCTGA TCGGTGTCGC CAAGGGCCCG GGTACGGGCC 7200	CACGGACGCC CAGGIGAGCC CCGICGICCI CGACGACAIC 7280	TCGGCGCCGA CGCCTCCACC GGCGACACGG CGGCCGTTCT 7360	GAACAGGTCC TGGGCGCGCT GGCGCTGGAC CTGGTCAGGG 7440	GGTGCGGGTC ACCGGGGCCC ACGACACCGA GCAGGCCGGG 7520
TGGCACCCGA	TCGGCACAGC	CCCTGCCCCT	CCCGTGCCAC	ATGCGTG CCTCTTCGCC	TCCGACGTTC	GGTCGCCGAC	ACGCCGCGGA	GTCGGCGAGC	5095050550	TCGGTGTCGC	CAGGTGAGCC	CGCCTCCACC	TGGGCGCGCT	Accededece
CTGCGGCGGC	6660600666	TGGCCCCTGC	CGCCAAGCGC	CCGATGCGTG	CGTCATCGCC	GCCGGGACGC	GGGTACGAGG	CACGGGACCC	CCGACTTCGA	GCGACGCTGA	CACGGACGCC	TCGGCGCCGA	GAACAGGTCC	GGTGCGGGTC
SGTG	999	SCG	29C	ISC	,GC	ICA	990	CIC	FIG	BAC	SIG	CI	JIC.	CAC
GGACTCC	CACCCGC	GCCGTTC	GTCGAGC	GAAGICC	CGGACCTC	GTGCTGC	99222999	TGATCGC	TTACCGG	GTGCGGC	CGTTCTT	GGGCTGG	CGTCGCG1	CCCTGGT
CGGACGGGCT GGACTCC	ceceeeccec cacccec	GIGCCCCGGC GCCGIIC	CCAGCGCGCT GTCGAGC	AAGCCGAAGG GAAGICC	GGGTCCCACG CGGACCTC	CGCGCCGAGT GIGCTGC	ACGCCGGGAC GGGCCCGC	AGGGATGTGC TGATCGC	GCGCGGGCCC TIACCGGG	GGCGGCGCG GIGCGGCC	TCGACGCTGG CGTTCTT	CGCCTTCCAC GGGCTGGC	GGGTGGACCT CGTCGCG1	TGCGGCGCG CCCTGGT
GACGAGGIGG CGGACGGGCI GGACICC	GIGACGAGAC CGCGGCCGC CACCCGC	CGCCTTTTCC GTGCCCCGGC GCCGTTC	CGTTCCCGTT CCAGCGCGCT GTCGAGC	GGAGCCCGGC AAGCCGAAGG GAAGICC	CGGGATCAGG GGGTCCCACG CGGACCTC	CGCGGTICGC CGCGCCGAGT GIGCIGC	GGCAACGCCA ACGCCGGGAC GGGCCCGG	CTGCGACGAG AGGGATGTGC TGATCGC	IGCGGGCGGT GCGCGGGCCC TIACCGG	CCCACGAICC GGCGGGCGCG GIGCGGCC	GGACGACCGG TCGACGCTGG CGTTCTT	TCGCGGACCG CGCCTTCCAC GGGCTGGC	CTCGCGGGCC GGGTGGACCT CGTCGCG1	GGACAGCGGC TGCGGCGGCG CCCTGGT
6321 GGCCACGGCG GACGAGGTGG CGGACGGGCT GGACTCGGTG	SCOF CONTROL OF THE CONTROL CONTROL CACCOCCOCC	6481 CGTTTCCCGG CGCCTTTTCC GTGCCCCGGC GCCGTTCCCG	6561 GCTGTGGCGC CGTTCCCGTT CCAGCGCGCT GTCGAGCCGC	6641 CGGGGCGCG GGAGCCCGGC AAGCCGAAGG GAAGICCCGT	6721 ACGGTCACGC CGGGATCAGG GGGTCCCACG CGGACCTCGC	6801 TTCACCCGTT CGCGGTTCGC CGCGCCGAGT GTGCTGCTCA	6881 GGTGCTGTCC GGCAACGCCA ACGCCGGGAC GGGCCCGCGG	6961 GGATCGTCGA CTGCGACGAG AGGGATGTGC TGATCGCCTC	7041 CGGGCCCATC TGCGGGCGGT GCGCGGGCCC TTACCGGGTG	7121 GGGCGCCCGT CCCACGATCC GGCGGCGCG GTGCGGCGAC	7201 CGGCGGAGCA GGACGACCGG TCGACGCTGG CGTTCTTCTG	7281 TTCCGCCGGG TCGCGGACCG CGCCTTCCAC GGGCTGGGCT	7361 CGCCAACGGG CTCGCGGGCC GGGTGGACCT CGTCGCGTTC	7441 ACGTCGTCCG GGACAGCGGC TGCGGCGGCG CCCTGGTCAC

Figure 3f/3

8561 GGGGTGCCGT GGTGCTAGGT GCCGCCGTAG ACGGGTGGGT TGGTGTGCT GTGCGCGTCC AGGTGCAGGA CGGCGACCCG 8640 TCTCCCGGGC GGATCACGAT CCGGGTCGGC GGCCGGGAGG 7680 CACCGCGTAT CCGCACGGCG GCGAGGTGAC CGTCCATATC 7760 GCGACCGCGA GGCGCGGGA GCGCAGGGAA CACGGGAGCG 7920 TCGTCCGCT GTCCCCGGCC GCCCTACCC CACCGCTGCC 8000 CGCGTTCTCG GCGTTCTCGG CGTCGTCCGC CGCCGCCCCC 8080 GCCGGGGACA CCTCGACCAC GTCGAAGCCG ACGGGCCTGA 8240 GGACAGCCCG CCGGGGGCCG GTGTGCCGGT GCCCGGGGCG 8320 8401 GCCGCGCGGT GAGCGCCGGG TGAAGTCGGC GGCGGTGACG ATGCTGACGC CGTGCCCGCG CGCGTAGTCC AGGGAGTCGG 8480 CICCGGGTCC ACCAGGCCCT CTTCGATGGC CCAGCGGAAG 8560 7521 GGGGGGGCC GGGCGGTGGT CGACGCGCCG TCGCTGAGGG CCGCGGTGCA CGGCCCGGCA CCCGACTGGG CGCCGGTCGC 7600 TGGTGGCGCG GGCGTACTGG TAGAGCAGTT CGGCCCCGAT 8160 GCGGCAGGCC GCCGACGGIG CGCCGGAICT GCTCGGCGAI 8400 TCCACGGCTG CGACCTCCTG GCGGGGTACC CGCGCCTCGG 7601 CGCCGTGGCG GGTGGACACG GGGACGAAGG CCCCGGCCGG 8001 CGGCGAAGTC CACGGCGCTC TCGGCGTCCA CCGCGTCCAC 8081 GGTGGCAGGG GAGAGTCCAC CGGTGCCGAC GCGGGCGACG 8161 CTCCGCCGCC AGCAGGGAGG TGATCCCCGA CGGGTCGTAC 8241 GCTGCCCGAC CACGTCGAGC AGGGTCAGCA CCTCGCGCGA 8481 GCCGCGGATT GTGGCCGCGG ATGCCGACCT GGACCAGGCG 7761 GACCICGGIG ICCCGGGCCG GGCGCCCGGC GCGIICACGG 7841 CGCCGGCCGG GCCGTCTGAA CGGGCGCTCC CGGGCGGACG 8321 TACGCCGGGT CGACGACGTC GATGTCGACG GAGACGTACA 7681 TCTTCCCCGC CCCCCGCGAC CGGGCCCGCC CGGACGCCGT 7921 GGCCCGGTGG TCGATCGGCC ACCGGGCCCG CTCCCGTCGT stop *orf6par*→

Figure 3g/3

8720	8800	8880	8960	9040	9120	9200	9280	9360	9440	9520	0096	9680	09160
GCGTCGTTGC	GATGTCGCCC	ACTCGTGCCG	ACCACGTCAT	GGTGGACACC	CCGTTCCCGT	2992922999	CACGCCCGCT	CGCTCATACG	CGTCCTCCGG	TCGCGCCGGA	GCGGGCCACG	GCCCGGGTTC	GCGAGGACGG
CATCAGGAAC	GGCTGAGGTC	ATCAGGCTGG	GCCGACGACC	GGGAGACGGC	GTGCGGGCTC	GGCGCCGTCC	TGCCCGCGCC	CCGTTCTGGC	CCGAAGTCCA	CGTCACCTCG	CCAGCTTGGG	CGGCGTTTGA	GGCGATGCCC
CCCCGCCCAG	ATCGAGAAGG	GACGCCGTGG	CGTACGGGGC	GCGTAGCGCG	TACCGACGCC CGGCCACCCC GTGCGGGCTC CCGTTCCCGT 9120	CCGCGCCCGC	TGCGGGCCGG	GCCACCGGTG	CGGAGCGCCG CACCGTCTCG CCGAAGTCCA CGTCCTCCGG 9440	CCTTGACGGC	TCGTGGATGC	GGTGCCCCGC	TCCACTTCCC
AGCGAGTGGT	CGCCAGGICC AICGAGAAGG GGCIGAGGIC GAIGICGCCC 8800	GGTCGATGCC GACGCCGTGG ATCAGGCTGG ACTCGTGCCG 8880	GIGCCICCGI	CGCCGGTTGG GCGTAGCGCG GGGAGACGCC GGTGGACACC 9040	TACCGACGCC	AATCCCGTTC	GTTGCCGCTC	TGCCGTTCTG GCCACCGGTG CCGTTCTGGC CGCTCATACG 9360	CGGAGCGCCG	GCCATGGCGC CCTTGACGGC CGTCACCTCG TCGCGCCGGA 9520	GCCGGACCCC TCGTGGATGC CCAGCTTGGG GCGGGCCACG 9600	CCCACTIGIC GGIGCCCCGC CGGCGTTIGA GCCCGGGTTC 9680	GGGTGGGTGG
8641 GCCGTGGCGG GCGTGCACGG CGCGCAGGGC GGCCAGGGAG AGCGAGTGGT CCCCGCCCCAG CATCAGGAAC GCGTCGTTGC 8720					CCCGTTCCCG	9121 GCCGACCCCC GTTCCCGAAC GGGCTCCCGT TCCCGCGTGG AATCCCGTTC CCGCGCCCGC GGCGCCGTCC GGGCCGCGGC 9200	9201 IGCCCCICCC ICCGAGACCG CICCIGCCGI ICCIGCGGCC GIIGCCGCIC IGCGGGCCGG IGCCCGCGCC CACGCCCGCI 9280		ACCGCGTCGA		CGCTGGTGGT	TGCCGCAACA	9681 GAGGGAGACC AGCGCGTCCA GGACCGCGCG GTCCCAGTAC GGGTGGGTGG TCCACTTCCC GGCGATGCCC GCGAGGACGG 9760
CGCGCAGGGC	8721 GTTCCAGGAG CCGGGTCAGG GCGACCGTCG CGGTGTCCAT	8801 CCGTCGACCA CGTCGATCCG GTCGAAGACC CCTGGGCCCC	8881 GATGGCGCGC GCGCGAACC GCGCGCGGG CCGGTAGCTG	8961 GGCCGATCGG GTCGGCCCGG TGCCGCAGCC GCATGAAGGT	9041 CTGGCCGTTC CCGGCGACC CGGCCCTGCT CCGGTTCCCG	GGGCTCCCGT	CICCIGCCGI	9281 GCACCGTCCG CGCCGCCGC GGTGCCGTTG CCGCCGCCGG	OLLOPAL 9361 ACCACCCGGC CCTGGAGCCT GAGCCTGCGC ACCGCGTCGA	9441 CGGCACCGIG TCGATGACCA CCGCGTCGTA CAGGCGCCGT	9521 TCCCTTCGGC GAGGAGCAGT CCGGTCCACG CGCTGGTGGT	9601 GTCTCGGCGG GCAGCAGGCC GGAGAGGGCC TGCCGCAACA	GGACCGCGCG
GCGTGCACGG	CCGGGTCAGG	CGTCGATCCG	GGCGCGAACC	GICGGGCCGG	CCGGCGCACC	GITCCCGAAC	TCCGAGACCG	೧ಡಿದರಿಕೆಂದರಿಗಳು	CCTGGAGCCT	TCGATGACCA	GAGGAGCAGT	GCAGCAGGCC	AGCGCGTCCA
GCCGTGGCGG	GTTCCAGGAG	CCGTCGACCA	GATGGCGCGC	GGCCGATCGG	CIGGCCGIIC	GCCGACCCCC	TGCCCCTCCC	GCACCGTCCG	ACCACCGGC	CGGCACCGTG	TCCCTTCGGC	GICICGGCGG	GAGGGAGACC
8641	8721	8801	8881	8961	9041	9121	9201	9281	9361	9441	9521	9601	9681

Figure 3h/3

9840	9920	10000	10080	10160	10240	10320	10400	10480	10560	10640	10720	10800	10880	10960	11040
GGCCGTGCGC	GCCGGTAGAG	AGTTCCCTGA	GTCGAACTCG	CCCCGGAGTC	AGGCGTTCGC	CCTGGCGGTG	CCGGCGCGGT	AGCCCCGTCA	GTCGGTGAGC	GTTCGGCGTC	AGCAGCCGGA	GGTGCCGTCG	5550050050	TCCACGGTGG	CGGCCGAGTC
ACCAGAGCGA	GIGICGAGCC	CGCCCAGGGC	AGCGGGCCGC	GCGGCGACTC	CGCCGTGGCG	TGCGGACCGC	CCCGCCGCCC	GGCGGCGCTC	CGGTGGAGGC	GCCAGCAGCA	GCCCGCCAGG	GCGGGTACGC	CCGCCGGGGC	GAACTCGTCC	CAGGAACGGG
TCGTCGAGGG	TGAGGATGCG GAGCGCCCCG GTGTCGAGCC GCCGGTAGAG 9920	GTGATCTCCG CGCCGCGAC CGCCCAGGGC AGTTCCCTGA 10000	GCCCAGGTGG ACGCCGACCG AGCGGGCCGC GTCGAACTCG 10080	GIGCCAGGGC CGCCGTGTGG GCGGCGACTC CCCCGGAGTC 10160	CCGCGCAGCC GGGTGCGGAC CGCCGTGGCG AGGCGTTCGC 10240	GGAGAGCGGG GGTGTCCAGG TGCGGACCGC CCTGGCGGTG 10320	CGGCGGGGAC CCGCCAGACG CCCGCCGCCC CCGGCGCGGT 10400	GCCAGGGTCT TCGCCTCGGT GGCGGCGCTC AGCCCCGTCA 10480	GGTGGCCGCG ACGGTCGCGC CGGTGGAGGC GTCGGTGAGC 10560	GGCCCCAGCG CCGCCAGGCG GCCAGCAGCA GTTCGGCGTC 10640	TCGGCGCGGT TGTACAGCTC GCCCGCCAGG AGCAGCCGGA 10720	CACGGCCGIT CCGCTCCAGA GCGGGTACGC GGTGCCGTCG 10800	TTCGGAGTGA	Start Offspar AAGGTGGGCC TCGACGGTGG 10960	GTACCTCGAT
CGCGATCTCG TCGTCGAGGG ACCAGAGCGA GGCCGTGCGC 9840	TGAGGATGCG	GIGATCICCG	GCCCAGGTGG	GTGCCAGGGC	CCGCGCAGCC	GGAGAGCGGG	CGGCGGGGAC	GCCAGGGTCT	GGTGGCCGCG	GGCCCCAGCG	TCGGCGCGGT	CACGGCCGTT	CGCIGCCGGG	start <i>orrs</i> AGGTCGGGGC	TAGGCCACCG GTACCTCGAT CAGGAACGGG CGGCCGAGTC 11040
CCATGTCGCC	CCGTACCCGG	CGTGGGGTCG	TGTGCGCGGT	CGTGTCCCGG	CGCCTCCCCG	GCAGCGCCG	AGGGCGGTCC	CGGCTCGTGC	CGGCGTGGTC	AAGGCCCCGG	TCCGGTCAGC	GGCCCAGGGT	AAGCGGGGTG	TCCGTACACG	CTGGAAGTCG
9761 GGGACATCIC GTTGAGGCCG TCGAAGCCCG CCATGICGCC	9841 CGGTGCATAC CGCCGAGCGG GATGTCGGCG CCGTACCCGG	9921 GGCGACGAGC GGCAGCAGGT ACTCCAGGAC CGTGGGGTCG	10001 CGAGTTCGGC CGAGTGGAGC CGGATCTCGC TGTGCGCGGT	10081 TCGGACACCT CGGTGCCCAT CGACACGGAC CGTGTCCCGG	10161 GATGCCGCCG GACAGGACGA CGGTGGGGGC CGCCTCCCCG	10241 CGACCAGGTC CACCGCCTCC CGTTCGCCGG GCAGCGCCCG	10321 ATGTCGGAGC CGCCGACTCC GTGCAGCAGG AGGGCGGTCC	10401 GTGGGTGCCG GACAGGCCCA GCGGCCGGCC CGGCTCGTGC	10481 CGTCGGCGCG CAGCCACAGC GGTACCGAAC CGGCGTGGTC	10561 AGTGCGCCGA ACCGTCCGTT CAGGAGCCGG AAGGCCCCGG	10641 GCCGAGGGCG GCAGAGGAGC CGCCGAGCGC TCCGGTCAGC	10721 CCTGGCCGTC GGCGACCAGG ACGGGCGGAC GGCCCAGGGT	10801 TGCACGGGA CATGGGTCCC GCGGACGGCG AAGCGGGGTG	GCACCCGGAA	10961 TCAGATGGCC AGGCCGCCGA AACCGCCGGA CTGGAAGTCG
GTTGAGGCCG	CGCCGAGCGG	GGCAGCAGGT	CGAGTGGAGC	CGGTGCCCAT	GACAGGACGA	CACCGCCTCC	CGCCGACTCC	GACAGGCCCA	CAGCCACAGC	ACCGICCGII	GCAGAGGAGC	GGCGACCAGG	CATGGGTCCC	GTGCCGATGC	<i>tzpar</i> Agggcggcga
GGACATCTC	GTGCATAC	GCGACGAGC	GAGTTCGGC	CGGACACCT	ATGCCGCCG	GACCAGGTC	ATGTCGGAGC	FIGGGIGCCG	GTCGGCGCG	GTGCGGCGA	SCCGAGGGCG	CTGGCCGTC	GCACGGGGA	CGGCCCTCG	CAGATGGCC
0	5	Ū	\circ	\vdash	U	0	7	0	0	KL.	0	_		ω,	V ⊟

Figure 3i/3

GGTGGCGCGG ACGCCTTCGC CTCGGCGAGC 11120	GGGAGCGCTG GTGTCCGAGG TTCTGGTACA GCTCGATCAG 11200	AGGCCCAGGC GCACGCCGT CTCGATGTCG GCGCTGTTGG 11280	GCCGGGCCGG GCGATCTGGG CGGCCATGGC GGCGGGCAGT 11360	CGTACGGCTG GTCGGACTTG GCGAAGAGCA CGCCGTAGTG 11440	AGGACGGAGT TCATGCAGTC GATCACCTGG TGGACCCGCA 11520	GACGCGGCC CGCAGGCCC TGAGGTCGTG CCGGGTCTTG 11600	ATTCGGCGAC GTTGGTGACG ATGTCGATGT CGGCGCGGAA 11680	GIGGICIIGG CCCGGCCCCG CGICCACAIG GAGGGCGCA 11760	GGCGGGGCCG AAGATCTCGT CGAGGGCCGG GTGGCCGAGA 11840	GGTGGTCGTG CGGCAGGACG CCCTTGGCGG TGTAGGTGGT 11920	GCGTCGACGG CCCCGGCGCG GATGACGGCG CTACCGACGA 12000	CTCGTCGAGG CGGGCGCCC AGTCGGCGTC CAGGGCGTGG 12080	CGTTCAGCTC GGCGCCGAGG AGGTCGACCG GCAGGCTGAT 12160	GCGCTGTCGA CGAGGTTGAC GATGTCCTCG CCGCGTTCGA 12240
AGGTGCGGTC	GCGGGGGCGI	GACGATCGGC	AGACGGGCTC	GTGAGGAATC	GCCGTTGTCG	GGAATTCGGC	GCGGTGACGA	GACCCGGACC	GGAGGAGGTC	TAGTTGAGCC	GGCGCGCAGG	GCTCAGCGGC	GTGGGGGTGC	GTTGAGGACG
GCGAGCAGCG	GAAGCCGACG	CGACGACCAT	GCGATGAGGA	GCCCGCGGAG	TGACGAAGGT	GGGTCGGCGA	GTCGTCGAGC	CCICGGGGGGC	CCGATCGCCA	GATGGCGCCG	GCTCGGCGAG	TCGCGCACCA	GGGGCGTCG	CGATCCGGCT
GGTGAGGGCG	CGACGCTTCC	TCGTTGTTGA	CCCGTCGCCC	AGCTGGAGCA	CCGATGTCGC	GTACTCGGTG	CCGAGGTCGC	ATCGGGTTGA	GTAGTCGTAG	TGTAGCCGCT	ATGTTCAGCC	GITCICGGCC	CCCGGACCAG	CCCACGGGCT
11041 CGGCGCCCTT GGTGAGGGCG GCGAGCAGCG AGGTGCGGTC	11121 TGGACGAAGT CGACGCTTCC GAAGCCGACG GCGGGGGCGT	11201 GCCGTTGCGG TCGTTGTTGA CGACGACCAT GACGATCGGC	11281 AGTGGAAGCC GCCGTCGCCC GCGATGAGGA AGACGGGCTC	11361 CCGTAGCCGA AGCTGGAGCA GCCCGCGGAG GTGAGGAATC	11441 GCGGAAGAAG CCGATGTCGC TGACGAAGGT GCCGTTGTCG	11521 TGCCGTCCTC GTACTCGGTG GGGTCGGCGA GGAATTCGGC	11601 GGGGCGAGGC CCGAGGTCGC GTCGTCGAGC GCGGTGACGA	11681 CAGCTCCGGG ATCGGGTTGA CCTCGGGGGC GACCCGGACC	11761 GGTCCTCGGC GTAGTCGTAG CCGATCGCCA GGAGGAGGTC	11841 ATGCCGTCCA TGTAGCCGCT GATGGCGCCG TAGTTGAGCG	11921 GACGACGGG ATGTTCAGCC GCTCGGCGAG GGCGCGCAGG	12001 CGAGGAGGG GITCTCGGCC TCGCGCACCA GCTCAGCGGC	12081 GTGGCGGTGG CCCGGACCAG GGGGCCGTCG GTGGGGGTGC	12161 GAAGCTGGGA CCCACGGGCT CGATCCGGCT GTTGAGGACG
11041	11121	11201	11281	11361	11441	11521	11601	11681	11761	11841	11921	12001	12081	12161

Figure 3j/3

		rigui		lucu		
12241 GCTGGACGCT	GAACTTGGTC	AGCGGGCCCA	TCACGGCGGT	GCTGTCCAGG	CACTGGTGGG	TGACGTTGGG
GTAGCAGTCG 12320						
12321 TACGACTCGG	ACTGCGCGGC	CAGCGCGATG	ACCGAGCTGC	GGTCCAGGGC	GGAGGTGGCG	ACGCCGGTGG
CCAGGTTGGT 12400						
12401 CATGCCGGGG	CCCAGGGTCG	CGAAGCACGC	CTGGGGGCGG	TTGGTGATCC	GGGCGAGGAC	GTCCGCCATC
ACCCCGGCGG 12480						
12481 TGAACTCGTG GCCGACGACG 12560	CCGGGTCAGG	ACGAAGTCGA	GTCCTTCG A C		AGAATGGCGG	
12561 CCGAATACAT	GGTCGACACC	GTACTGGTGA	AGACGTTCCA		start of <i>or:</i> CGCGGTCGTG	
AGATCTCCTT 12640						
12641 CGCATCGGAC	GGGCGCCGGG	ATGGCGCCCC	GGAAAACGCG	GCACCGGGCG	GTGCGCACCG	GGTGGCGCAC
ACCGTGGGTG 12720						
12721 GTGGCGTTGC	CACTGTGCGG	ATCGCCTCTT	GGCGGCGGTC	GGACGCCCGG	CTTGGACAGA	ATGGGCAAGG
CGCGTTCAAG 12800						
12801 GCATGGCGTC CGTCCCCTTC 12880	CATCGTCCTC	GTGGCGCTTT	TCGTGAAATC	CGTCCGGCGC	CGACGGTCTC	CATCCGATTC
12881 CGTCCACCGA	TCCGAGGAGA	ATCCATGGAT	GTCCTGGCCG	CGTTGGAGCG	CAAGCCCAGC	CTGAATCTTT
TCCCCATCGA 12960						
12961 GAACCGGCTG	TCGCCGCGCG	CCAGTGCCGC	GCTGGCCACC	GACGCCGTCA	ACCGCTATCC	GTACTCCGAG
ACCCCGGTGG 13040						
13041 CCGTCTACGG	CGATGTCACG	GGGCTGGCCG	AGGTGTACGC	GTACTGCGAG	GACCTGGCCA	AGCGCTTCTT
CGGGGCGCGC 13120						
13121 CACGCCGGTG	TGCAGTTCCT	GTCCGGTCTG	CACACCATGC	ACACCGTGCT	GACCGCCCTG	ACCCCGCCCG
GCGGGCGCGT 13200						
13201 CCTGGTCCTC	GCGCCGGAGG	ACGGCGGCCA	CTACGCCACG	GTGACGATCT	GCCGGGGCTT	CGGCTACGAG
GTCGAGTTCT 13280						
13281 TACCTTCGAC		CTGGAGATCG	ACT			
13313 (SEQ ID NO 10	<u>:16)</u> 20	30	40	50	60	70
80						

Figure 3k/3